

Human Energetics in an Era of Post-Humanism

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Abstract

French philosopher of technology Gilbert Simondon is undoubtedly one of the key figures when it comes to conceptualizing individuation across physical, mental and social strata. In this article, we develop a rather overlooked aspect of Simondon's work, namely how his ontogenetic project also implies an idea of a "human science" based on a "human energetics," which—maybe in spite of its name—is an inherently transhumanist project transducing across both disciplinary and experiential fields, with a particular emphasis on the role of technology. We present key concepts in Simondon's work and relate them to lines of thinking on energies in the arts (Kahn) and post-colonialism (Wynter), exemplified through an analysis of Nigerian artist Ootobong Nkanga's video work "Remains of the Green Hill." Our primary aim with the article is to continue a mobilization of Simondonian concepts and thinking for an experimental, transhumanist exploration in relation to its ethico-aesthetic and artistic potential.

Keywords

Energy humanities, human energetics, individuation, socio-genesis, posthumanism, human science, postcolonialism, affect.

DOI

[10.69564/ISEA2023-46-full-Brunner-et-al-Human-Energetics](https://doi.org/10.69564/ISEA2023-46-full-Brunner-et-al-Human-Energetics)

Introduction

In the wake of an increasingly differentiated debate on the status of the human in the era of posthumanism and the Anthropocene, major critiques of a Eurocentric humanism at the heart of the arts and humanities have emerged.^{1,2} Instead of turning towards the agency of non-humans or celebrating the vibrancy of matter a more-than-human account tuned to the status of the human requires a radical rethinking of what a non-Eurocentric conception of the human and humanities might look like.^{3,4,5} Such a recasting of the humanities matters in two crucial ways: on the one hand the humanities are part and parcel of an ideological as much as economic-colonial project which builds on both an ontology of the human as autonomous and conscious being and the extractive order seizing lands and resources on a global scale.^{6,7} On the other hand, such critiques of human exceptionalism afford us to rethink the human as embedded in material, organic, social and mental domains that do not only intersect but radically transform the idea of an autonomous human subject. A humanities building on such a post-humanist conception of the human has been a major concern of French philosopher of technology Gilbert Simondon, whose work in the 1950s and 60s has not only formulated a relational conception of change and becoming but was also deeply concerned with a transformation of the humanities towards what he terms a “human Science” (Science humaine) involving the formation of a proper “human energetics.” In the first instance, Simondon’s persistent attention to the role of technical being might seem like a plea to know technologies better, to become an engineer that understands and not only uses technologies. Further one could conceive of his elaboration on energy and energetics, which he primarily derives from physics, as an attempt to consolidate natural sciences and the humanities.⁸ However, Simondon’s interest is a different one. By asking about the axiomatics of the natural sciences, cross-pollinating different scientific disciplines, he outlines a new program for the humanities: with the notion of a human energetics, he shifts the focus from subdivisions of thinking the human along disciplinary differences to the possibilities of a shared sensibility for the emergence, continuation, and potential dissolving of constellations which take shape across material, organic, and mental domains. He particularly draws on the notion of “potential energy” to do so.

The resurgent interest in the concept of energy and energetics in areas such as the energy humanities, but also artistic and postcolonial contexts demonstrates an increasingly transdisciplinary body of research that

provides plenty of resonances with Simondon’s proposition of a human energetics.^{9,10,11,12} These respective fields and approaches towards an energetic outline of art, media, and culture conceive of energy—or energies—as relational properties immanent to varying processes of material and conceptual transformation in creative practices.

While Simondon aims at a broad reworking of the humanities closely linked to the sciences, his emphasis on the human should not be mistaken. In his transductive account of potential energy, we perceive a strong refusal of any anthropomorphic conception of the human as different from technologies or its organic and inorganic environment. In this sense, the human energetics in a Simondonian key, are trans-humanist, where the human becomes a composite of different energetic relays. More than that, Simondon’s reworking of potential energy allows us to embark on a critique of the humanist tradition and its Eurocentric and enlightened concept of the human. We therefore draw on the work of Jamaican philosopher and writer Sylvia Wynter whose critique of the human as “Man” implies a feminist and post-colonial problematization of enlightenment conceptions of the human, both in philosophy and the sciences. Instead of rejecting the concept of the human, however, she proposes a reworked notion of the term that resonates strongly with several contemporary post- and transhumanist positions.

The critical reworking of the human through Simondon, Wynter, and new energetic tendencies in the arts allows us to conceive of contemporary artistic practices as “fields of experience.”^{13,14,15} Addressing such fields as energetic textures, opens up a new perspective on the tendentially less concrete category of relations. Without wanting to stage energies against relations, our intention is to show how the energetic traverses material, technological, embodied, aesthetic and perceptual domains through affective, energetic activation. We will therefore draw on Nigerian artist Otobong Nkanga’s video work “Remains of the Green Hill” in order to provide a first analytic account of how to work with this energetic approach in the context of electronic arts and media.

A Simondonian Proposition of a Human Energetics

In any case, we would arrive at the idea according to which a human science must be founded on a human energetics and not just on a morphology; a morphology is quite important, but an energetics is necessary; one

would have to ask why societies transform, why groups change in accordance with the conditions of metastability. However, we certainly see that what is most important in the life of social groups is not merely the fact that they are stable, but that at certain moments they cannot conserve their structure: they become incompatible with respect to themselves, they dedifferentiate and become supersaturated; just as the infant can no longer remain in a state of adaptation, these groups disadapt.¹⁶

Simondon most thoroughly develops his notion of energy and human energetics in his magnum opus *Individuation in the Light of Notions of Form and Information* collected and published in 2005, but containing work from 1964 and onwards. Here, Simondon conceptualizes the notion of energy—and in particular “potential energy”—as a form-taking and change-making processes of individuation across organic, physiological, social, technical and psychological domains. This allows him to conceive of individuation as tied to a system (and its state of stability). For Simondon, the system is not a closed one. On the contrary, it is the necessary ground from which the energetic activity initiates a potential process of individuation. Whereas this use of energy and energetics derived from physics might be seen as an attempt to consolidate natural sciences and the humanities,¹⁷ Simondon has a different aim: through a human energetics, the focus shifts from subdivisions that conceive of the human along disciplinary divides towards the possibilities of a shared sensibility for the emergence, continuation, and potential dissolving of compositions (or forms). To Simondon, these compositions take shape across both material, organic, and mental domains through operations of transduction.¹⁸

The notes from the lecture “Form, Information, Potentials” most explicitly develop the notion of human energetics as a non-equivalence-based model of thinking relations between form and information. Either notion is deeply transformed from a more conventional conception of form as given and impressed onto matter. By proposing a new theory of form, Simondon interlaces an archetypal and a hylomorphic conception of form to be found in Plato and Aristotle respectively. For Simondon, the archetype is a structural germ of a form—a field—and the matter-form couple in the Aristotelian scheme is a domain. The field is a virtual cueing of potential energies to “inform” the energies immanent to a domain which is “the ensemble of reality that can receive a structuration.”¹⁹ Far from being a linear

process, the coupling of the germ and the structuration provides a vital process of differentiation and dedifferentiation.

Put differently, the ideal form is not a given but an informational field encountering a domain whose abilities to resonate shape the actual form-taking. Along his informational account, Simondon uses the concept of energy and energetics without rendering it into a metaphysical category of a metaphor for explaining a connective dimension that cannot be grasped in any substantial manner. On the contrary, energy is taken in its physical sense, where potential energy is energy in a system being stored and later released. It is a material potentiation that in its abstract state is information. With the introduction of the concept of information, Simondon casts potential energy as a type of energy that is not merely quantifiable in magnitude but crucial for processes of transforming an energetic state, like that of a mineral, into another, such as a metal or gas. To understand such qualitative changes, a mere thermodynamic equivalence model of energy is insufficient since it does not account for the effectuation of change itself. With his insistence on information, Simondon ties the problem of change to the question of what drives change and how change operates through a fielding of potential energies. Put differently, potential energy is a prerequisite for the process of form-taking as a transductive operation. In his earlier work *On the Mode of Existence of Technical Objects*, Simondon accordingly writes that the issue at stake concerns thinking not from the end of an action (its result) which he calls finality but rather to focus on causality and the process of causation.²⁰ Simondon insists that morphology, the taking or changing of form, requires the addition of energy to understand general processes of transformation. To further understand “why societies change” for instance, we must turn towards the process of individuation. In his outlined energetic scheme, a society’s transformation should be understood by a constant tension between differentiation and dedifferentiation, of a non-linear leaping of constant reworkings of how form takes shape under differentiating conditions and along specific lines of processing. For the human sciences (i.e., humanities) this principle or paradigm provides an axiomatic approach that foregrounds the non-foundational process of energy-oriented information. As a process of transduction, information binds the different modes of existence into an energetics that allows us to radically challenge a classic humanist understanding of action. It is neither the human as an already constituted individual that acts, nor is an individual the mere subject of external forces. It is the interplay between information,

matter and form taking, cutting across different registers of existence, which constitute a human that acts by being energetically engaged.

By further introducing the physical notion of the field, Simondon finds the conceptual handle to move beyond a separation between the abstract and concrete, the empirical and metaphysical, or a binary logic of interiority and exteriority. Combined, the notions of field and energy allow Simondon to recast processes of individuation and ontogenesis across disciplinary boundaries, leading him to propose a rethinking of the “human sciences” towards “human Science” with a common axiomatics applicable to various domains, respecting their multiple forms of application. Such a general energetics might be conceptualized as a transversalizing move beyond disciplinary divides in a common understanding and exploration of new ways of being and, especially, becoming—with a particular emphasis on the constitutive role of technics and technical objects for energetic, material, and existential conditions.

Simondon’s by now sixty-year-old problematization of the humanities through energy and energetics bears another problem tied to contemporary debates in the emergent domain of research of energy humanities but also the extractivist idea of human energy as the exploitative enterprise of slavery and the deterioration of natural resources. Simondon’s critique of such exploitative modes is radical, in the sense that he considers neither economic nor energetic exploitation as sufficient for the problematization of human suffering. His take on a Marxist critique of political economy emphasizes that the workers’ loss of the means of production under capitalism and their cooperative reclaiming rests on a much deeper alienation that between human and technical being.²¹ Again, while on a more general level, Simondon’s critique could be read as a debunking of the foundational critique of capitalism in Marx. However, his critique targets equivalence and more precisely the deployment of the general equivalent in Marx as much as the general equivalent of energy in thermodynamics. By problematizing a conception of modernist progress building on models of equivalence, such as money or monetary value and energy, Simondon becomes a highly interesting interlocutor for thinking the far-from-equilibrium critiques of change based on human-centered action as a dominant narrative in the genealogy of Western humanities.

Energy Humanities and Energy in

the Arts

In the following, we wish to position Simondon’s human energetics in relation to a rapidly growing engagement with energy in several emerging research areas within the arts and humanities over the last decades. In doing so, we also wish to hint at how a Simondonian proposition of energetics contributes to this current—important and necessary—work carried out; namely the basic idea that energy is core to both human and non-human existence and hence is not something “out there” but deeply entrenched within an expanded understanding of the arts and humanities.

In their article from 2014 “The Rise of Energy Humanities,” authors Dominic Boyer and Imre Szeman forcefully state the need for a humanistic take on current energy dilemmas:

“Energy humanities” is an emerging field of scholarship that overcomes boundaries between disciplines and between academic and applied research. Like its predecessors, energy humanities highlights the essential contribution that the insights and methods of the human sciences can make to areas of study and analysis that were once thought best left to the natural sciences.”²²

A central starting point for the energy humanities is that “today’s energy and environmental dilemmas are fundamentally problems of ethics, habits, imagination, values, institutions, belief, and power—all traditional areas of expertise of the humanities and humanistic social sciences”²³. This points to the necessity of revitalizing both humanist and artistic perspectives in the joint pursuit of rethinking energy across disciplinary divisions. This differs slightly from the approach taken by Simondon. Rather than arguing for what human sciences can bring to natural sciences, a Simondon-inspired human energetics emphasizes the inherent entanglements across said research fields. We can only arrive at radically repositioning disciplinary divisions by acknowledging this condition. Here, human energetics might be seen as adding to a heterogenous, diverse understanding of different kinds of energies across several domains.

It is beyond the scope of this paper to provide a comprehensive review of all the ways in which energy has come to matter in humanist and artistic thinking and practice. For an attempt at this quasi-impossible task, with an orientation towards the artistic explorations, we point at Douglas Kahn’s comprehensive introduction to the anthology *Energies in the Arts* from 2019. Here, Kahn presents a pluralistic approach moving from “energy” to “energies in the arts.” He develops an

“indefinition of energies,” and instead shows multiple, situated examples of energies in, around and across artistic practices. According to Kahn:

“Energies are embedded and embodied in all phenomena, in the operations of the senses and cognition, and, thus, how we might feel, perceive, and think about them, individually and collectively. They also drive engines, manufacturing, telecommunications, and media; and underscore large-scale periods such as the age of steam and the Industrial Revolution, the atomic age and ongoing oil wars.”²⁴

Fields of energy and fields for understanding energy continuously commingle, which calls for a specificity in addressing energetic configurations, and not least how these configurations are “(...) bound to be upset by the capacious, appropriative and synthesizing embrace of the arts and culture.”²⁵ A focal point for Kahn, then, is to acknowledge and explore the “aesthetics and poetics” of different artistic discourses and expressions of energy.²⁶ In the text, Kahn surveys and addresses understandings of energy from a broad range of disciplinary fields – physics, psychology, philosophy, (environmental) humanities – and, naturally, from through an array of artistic expressions. Among other examples, Kahn reports on a fundamental energetic transformation in the arts when music went from metabolics and acoustics to electrical and electronic music:

“Transduction back and forth between two classes of energy – acoustics and electromagnetism – not only fundamentally changes the character of the production, modulation, amplification, transmission, and storage of music, it also set up new relations of control (and lack thereof) for the performer and composer.”²⁷

Whereas Kahn does not make any explicit references to the work of Simondon, we see both a range of shared concepts (fields, transduction) and interests. Kahn makes it explicit that his task is not to develop overarching theories or philosophies, but tracing down specific instances of how energies are explored, activated or transduced in practice. Whereas it might be argued that the departure of this article is indeed related to the theoretical or philosophical articulations presented in Simondon’s work, it is important to emphasize that it is equally important to trace particular energetic projects and trajectories—as well as to inspire future both conceptual, designerly or artistic activations of this conceptual foundation in relation to both analysis and practice. However, we also wish to revisit Simondon’s project in the light of contemporary discussion around the post-human across arts and

humanities, to resituate and discuss the extent of his thinking, which will be the main focus in the following section.

The Human in the Era of Posthumanism

The heightened interest in a differentiated concept of energy and energetics in the arts allows us to trace some of the more recent encounters with post- and decolonial critiques of Western conceptions of the human in aesthetic discourses. We will particularly engage positions which relate to Black Studies and Black Aesthetics. The post-human in the arts ranges from early debates on Internet art, to feminist celebrations of the cyborg (see for instance the most recent iteration of the Venice Biennale in 2022), eco-art or various problematizations of the Anthropocene. Most of these critiques of humanism tend to overcome the human as such.²⁸ Black Aesthetics and Black Studies, on the other hand, have raised the question of the category of the human as a trait of racist and colonial Eurocentric enlightenment.^{29,30,31,32,33} These perspectives draw on Frantz Fanon’s notion of the “sociogenic.”³⁴ Sociogeny, rather than a biological notion of phylogeny or the philosophical concept of the ontogenetic, defines the constant reproduction and differentiation of social forms. Through the lens of sociogeny,

Fanon casts his main concern, racism, a cultural phenomenon tied to capitalist and colonial extractive logics of dehumanization.

Dehumanization, exclusion, and Othering have been part and parcel of black resistant reflections in literature and the arts. One of the most prominent expositions of aiming at another or different notion of Black humanity can be found in Afrofuturism as a literary and artistic movement.^{35,36} These artistic explorations engage with the future as a post-humanist line of flight for marginalized minorities who are systematically excluded from mainstream discourses in society and culture. From a more feminist perspective, Haraway draws on the works of Hortense Spillers and Gloria Anzaldúa, among others, to cast a black feminist mode of resisting the intersectional historical dehumanization of women of color under the trope of a white, patriarchal, and Eurocentric order of who is worth being considered human. Haraway engages with abolitionist and women’s rights activist Sojourner Truth’s famous utterance “Ain’t I a woman” to point out the impenetrability of white supremacy as a black woman and fully human being. Sojourner Truth’s exclamation “ain’t I a woman” at a 1851

women's convention in Ohio underlines the dehumanizing experience of not being accounted as fully a person as the (white) others. Being partial and not being whole and thus fully human—as the term might be used to point at the integrity of a being (or subject) or a community (such as a species) that marks the experience of the black woman—provides the potential of a different humanity which Haraway terms the post-human.³⁷

The human in the post-human is not, as it might often appear, a beyondness which runs the danger of leaving the foundational Western concept of the human intact, but another kind of human that was never included in the enlightened project of the humanist tradition. The effects of a dehumanizing and exclusive conception of the human define one of the key problematizations of Sylvia Wynter's work. For Wynter, the human has mostly been a conception of Man [sic!] either in a phylogenetic or biogenetic and ontogenetic vein. We can see how such a problematization allows us to engage an immanent critique of Simondon's emphasis on ontogenesis as the guiding principle of his philosophy of individuation. Up to a certain point, Wynter and Simondon share a similar project; reconsidering the human not as a category to be overcome but as a shared principle for a different human Science. For Wynter the devalorizing of blackness as a biological, ontological, and social category (all three composing the sociogenic) leads to an "over-valorization of whiteness" which she casts as an "overall devalorization of the human species that is indispensable to the encoding of our present hegemonic Western-bourgeois biocentric descriptive statement of the human."³⁸ And she further counters such a casting:

"In other words, because the negative connotations placed upon the black population group are a function of the devalorization of the human, the system revalorization of Black peoples can only be fundamentally effected by means of the no less systemic revalorization of human being itself, outside the necessarily devalorizing terms of the biocentric descriptive statement of Man, overrepresented as if it were by that of the human."³⁹

The revalorization of Black peoples as a necessary and all-encompassing reworking of the human provides a black radical critique of the reductive, hegemonic, and racist conception of the human in the Western narrative of the human sciences. We consider Wynter's problematization crucial to further extend Simondon's human energetics. In order to do so, we need not only to reconsider the information-oriented process of individuation that proceeds through potential energy,

but to account for the informational germs that engage with matter to take form from a non-Eurocentric or white assumption as we find them in the notion of good form or good sense, from Plato to Descartes and Kant. Engaging with Black Aesthetics, Wynter proposes another form-taking which undermines the white humanist assumption of form and the sociogenically ingrained mechanism of representation and recognition. Describing the human as "mere mechanism" of dominant, bourgeois, hegemonic and racist order, Wynter dismantles white humanism as a structural function for extraction and marginalization – of rendering blackness inhuman. Frantz Fanon, to whom Wynter repeatedly refers, writes:

"What are by common consent called human sciences have their own drama. Should one postulate a type for human reality and describe its psychic modalities only through deviations from it, or should one not rather strive unremittingly for a concrete and ever new understanding of man?"⁴⁰

Mobilizing Fanon, Wynter asks about potential energies for a resurgence of the human in a non-hegemonic and non-mechanistic and thus not racializing key. The difference of such energetics resides in Fanon's and Wynter's reclaiming of the human, engaging the relation between fields of potential energy and their resonance with form-taking processes with and through matter. Matter is not the non-or post-human to be celebrated in an often depoliticizing gesture, but an energetic relay that provides the ground for becoming and accounts for the human as a composite mode of existence.

Mattering: Post-humanist Energetics in the Arts

From a Simondonian proposition of a human energetics, to-wards a broadened notion of energy in the arts towards a black aesthetics of energies against a dehumanizing humanist order, the question of the more-than-human obliges us to turn to matter. Matter as a concept gained a rather romanticized outlook bearing the possibility of depoliticization. While the vibrancy of matter provides some resonance with Simondon's refusal of the hylomorphic scheme as insufficient for an understanding of form-taking, it might also lead to an overt celebration of matter and an agential realism that runs the danger of leaving the human behind.^{41,42} New Materialism's engagement with matter proposes a more nuanced differentiation, especially when it enters into an honest dialogue with historical materialism. At the same time, a thoroughgoing inclusion of a black studies focus

on the sociogenic remains a future task.⁴³ Katryn Yusoff's critical analysis of the science of geology as a discipline that considers matter as inhuman and turns slaves into energy providing bodies thus becoming inhumane objects, adds a new problematizing dimension to our discussion of human energetics.⁴⁴ Turning the enslaved body into an energy resource, drawing a line from the plantation to machine discipline, as Nicholas Fiori proposes, binds the enslaved body to a thermodynamic energy regime⁴⁵. Such a regime, as much as the capitalist extractive one, is insufficient to understand the overall scope and relevance of energy. The same accounts for the energetic regime of geology, as the discipline that casts matter or the earth into an extractable resource.

Simondon's insistence on potential energy enables us to build a bridge to Wynter's and Fanon's undoing of a White humanist conception of the human. It shifts the de-humanizing and energy as resource-based logic around matter and energy into one that moves through blackness and black embodiment. Yusoff's work points at the extractivist logic immanent to geology and the energy necessary to extract specific matters from the earth. The energy of the objectified slave body is bound to matter as the object of extractive activities, creating a tightly knit energetic feedback loop.

For us the question posed by Simondon, Wynter and Fanon remains; how to rethink the human beyond whiteness and Eurocentric humanism. A first proposition works through "affective engagement" and "affective relaying" with and through the sensuous.^{46,47} Affect as the realm where the emergent quality of information becomes felt before it can be rationalized appears as the ideal zone to begin a human Science that pays attention to both potential energy and the sociogenic problematization of the human. Such a reworking of the human occurs when we look at Otobong Nkanga's short video artwork "Remains of the Green Hill." The video shows Nkanga in the foreground holding different yoga poses with rocks on her head. The artist stands in front of the former Tsumeb copper mine in Namibia. The video's audio is an interview with the former managing director of the by now abandoned mine. The images are calm without other humans. Through the warm light of sunrise, the texture of the scene is one of rebeginning in the ruins of prior capitalist (in-and dehumanizing) extraction. The manager talks about turning the abandoned pit into a monument to begin a new narrative that reworks the scars of the former violent activity. Heather Davis writes about Nakanga's posture: "the gestures could be read as an invocation of healing, of connection, deliberately breathing in the remains of the mineral air."⁴⁸ Healing in the remains of violent energy

turnover, healing towards different human and more-than-human encounters. We might conceive of this as first steps towards a different kind of expanded—planetary? cosmological?—humanity. However, it is also necessary to point out the rock on the artist's head, a burden and historic geological weightedness and a companion or ally at the same time.

A range of existential questions have (re-)surfaced within the humanities following a decade-long period of technoscientific advancement and environmental crisis. From the technological side of things, machine learning/AI, cyborgs, (both voluntary and involuntary) robots and the like are jointly blurring the boundaries between what has normally been conceived as the "human" and "non-human." Similarly, the challenges we are facing on an environmental and planetary scale have also propelled a reorientation of the human as the center of the world, albeit maybe still responsible for catalyzing the forces that have effectuated this displacement in close collaboration with a range of technical inventions. All of this has had a profound impact on our very conditions of life and living in the world. Somehow, we seem to be perpetually living in a "(...) far-from-equilibrium situation where each of the systems we depend on for stability

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